

In the Claims

1. (Original) An optical modulator comprising:
a first phase modulator operable to phase modulate an optical carrier signal according to a first data stream to generate a modulated optical signal; and
a second phase modulator operable to phase modulate the modulated optical signal according to a second data stream to generate an optical data signal, wherein the second data stream comprises a time-delayed version of the optical data signal.
2. (Original) The optical modulator of Claim 1, wherein the second data stream comprises a version of the optical data signal having a one bit-period delay.
3. (Original) The optical modulator of Claim 1, further comprising
a converter operable to convert the optical data signal into an intensity modulated optical data signal; and
a photodetector operable to convert the intensity modulated optical data signal into an electrical data stream, the electrical data stream delivered to the second phase modulator as the time-delayed version of the optical data signal.
4. (Original) The optical modulator of Claim 1, further comprising:
a first optical splitter coupled to the first phase modulator and operable to split a received optical carrier signal into the optical carrier signal for the first phase modulator and a second optical carrier stream;
a second optical splitter coupled to the second phase modulator and operable to split the optical data signal from the second phase modulator into a first optical data stream and a second optical data stream;
an optical coupler coupled to receive input from the first splitter and the second splitter, the optical coupler operable to interfere the second optical data stream and the second optical carrier stream to generate an intensity modulated optical data signal; and
a photodetector operable to convert the intensity modulated optical data signal into an electrical data stream, the electrical data stream delivered to the second phase modulator as the time-delayed version of the optical data signal.

5. (Original) The optical modulator of Claim 4, wherein a splitting ratio of the first splitter and a splitting ratio of the second splitter are configured such that a power of the second optical carrier stream and a power of the second optical data stream are substantially equal.

6. (Original) The optical modulator of Claim 1, further comprising a tunable delay module operable to selectively control delay of the time-delayed version of the optical data signal.

7. (Original) The optical modulator of Claim 1, wherein an electrical feedback line delivering the second data stream to the second phase modulator is configured to provide an electrical version of the optical data signal having a one bit-period delay.

8. (Original) The optical modulator of Claim 1, wherein the first data stream and the second data stream each comprise electrical data signals.

9. (Original) A method for precoding optical data signals comprising:
receiving an optical carrier signal;
receiving a first electrical data stream;
phase modulating the optical carrier signal according to the electrical data stream to generate a modulated optical signal;
phase modulating the modulated optical signal according to a second electrical data stream to generate an optical data signal, wherein the second electrical data stream comprises a time-delayed version of the optical data signal.

10. (Original) The method of Claim 9, wherein the second electrical data stream comprises a version of the optical data signal having a one bit-period delay.

11. (Original) The method of Claim 9, further comprising converting the optical data signal into an intensity modulated optical data signal; and converting the intensity modulated optical data signal into the second electrical data stream; and

delaying the second electrical data stream such that the second electrical data stream is delivered to the second phase modulator as the time-delayed version of the optical data signal.

12. (Original) An optical modulator comprising:
a first optical splitter having an optical input, a first optical output, and a second optical output;

a first phase modulator having an optical input, an optical output, and an electrical data input, the optical input coupled to the first optical output of the first optical splitter;

a second phase modulator having an optical input, an optical output, and an electrical data input, the optical input coupled to the optical output of the first phase modulator;

a second optical splitter having an optical input, a first optical output, and a second optical output, the optical input coupled to the optical output of the second phase modulator;

an optical coupler having a first optical input, a second optical input, and an optical output, the first optical input coupled to the optical output of the first optical splitter, and the second optical input coupled to the optical output of the second optical splitter; and

a photodetector having an optical input and an electrical output, the optical input coupled to the optical output of the optical coupler, and the electrical output coupled to the electrical data input of the second phase modulator.

13. (Original) An optical modulator comprising:
means for receiving an optical carrier signal;
means for receiving a first electrical data stream;
means for phase modulating the optical carrier signal according to the electrical data stream to generate a modulated optical signal;
means for phase modulating the modulated optical signal according to a second electrical data stream to generate an optical data signal, wherein the second electrical data stream comprises a time-delayed version of the optical data signal.

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)